

REMARKS

Claims 1-34 are pending in this application. Claims 15-29 have been subjected to a restriction requirement and withdrawn from consideration.

The Restriction Requirement

Applicant acknowledges the finality of the restriction requirement and withdrawal of claims 15-29 from examination.

Rejection – 35 U.S.C. § 112 ¶ 2

Applicant acknowledges the withdrawal of this rejection of claims 10, 12, and 14.

Double Patenting

1. The Office has repeated the provisional rejection of claims 1-14 and 30-34 under the doctrine of obviousness-type double patenting over the claims of several co-pending applications in view of Erwin et al.

2. The Office has also repeated the provisional rejection of claim 8 under the doctrine of obviousness-type double patenting over the claims of several co-pending applications in view of Erwin et al. and further in view of Reid et al.

Despite Applicant's previous arguments, the Office repeats both rejections because it argues that the limitations added to the claims are taught by Erwin et al., i.e., this reference discloses additional wrappings to areas of high stress at 45 degrees in column 3, lines 26-38. From such arguments and others contained in the Office Action, it is apparent that the Office considers the plurality of layers of fiber material (designated as 34) to be a composite overwrap.

Applicant respectfully disagrees with both of these rejections and the underlying rationale. The present independent claims recite that the structural member contains an outer surface with a polygonal shape and that a composite overwrap is located over the surface with this polygonal shape. The dependent claims contain the additional limitation that the composite overwrap reduces the secondary loading condition. The Office, however, has not shown that Erwin et al. teach or suggest either of these limitations.

In the previous rejection, the Office argued that Erwin et al. disclose a tennis racket with a handle 12 that has a polygonal shape. *See Office Action of 9/23/03 at paragraph 13.* Assuming, *arguendo*, this argument is true, the Office has still not shown that a composite overwrap is located over this polygonal surface of handle 12.

The Office argues that the plurality of layers of fiber material (designated as 34) of Erwin et al. would constitute a composite overwrap. Once again, assuming this argument to be true merely for argument's sake, it does not show that Erwin et al. teach or suggest the claim limitation of a composite overwrap located over a surface with a polygonal shape. The plurality of layers of fiber material 34 of Erwin et al. are wrapped around casing 32 which, as shown in Figure 2, has a circular surface. But the Office has failed to argue—or even allege—that casing 32 has a polygonal outer surface. And it is unlikely that the Office can show that Erwin et al. would suggest a polygonal shape to the skilled artisan since all the Figures illustrate casing 32 as having a circular cross-section.

Nor has the Office shown that the layers 34 are wrapped circumferentially as recited by the present claims. The Office argues that that the helically wound layers 34 of Erwin et al. meet such a limitation. But a helical winding is simply not the same as a circumferential winding. A

simple comparison of Figure 2 of Erwin et al. and Figure 15 of the present application shows some—but not all—of the differences between such windings.

Thus, the Office has not shown that Erwin et al. teach these limitations of the present claims. Nor has the Office argued that such limitations would have been obvious in light of Erwin et al. And if the Office has not shown that Erwin et al. teach or suggest these limitations, the Office can not show that it would have been obvious to modify the claims of the co-pending applications to contain such limitations.

Thus, the Office has not substantiated a sufficient basis for these grounds of rejection and Applicant respectfully requests withdrawal of these rejections.

Rejection – 35 U.S.C. § 112 ¶ 1

The Office has rejected claims 1, 10-11, 13, and 31-33 under 35 U.S.C. § 112 ¶ 1 as failing to comply with the written description for the limitation “wherein a portion of an outer surface of the structural member has a polygonal shape.” Applicant respectfully disagrees.

It is clear that the specification provides written description for an outer surface of the structural member having a polygonal surface. *See pages 13-14, Figure 11, and original claims of the present specification.* Accordingly, Applicant assumes that the Office does not consider that the language “a portion of” an outer surface has sufficient written description.

Such written description, however, can be found in either of two sources: the meaning of “an outer surface” and page 13 of the specification. As to the first source, the original claims recited that “an” outer surface of the structural member had a polygonal surface. Note that the claims did not recite that “the” outer surface of the structural member had a polygonal surface. Thus, properly interpreted from its plain meaning, this language would provide support for a part

of the outer surface having a polygonal surface. This is no different from the language of a portion of the outer surface having a polygonal surface.

The second source for support of this language can be found on page 13 of the specification. Paragraph [35] describes that making the structural members with a polygonal shape “provides several flat surfaces on the inner or outer surface of the structural member...” And paragraph [33] describes that the contoured shapes of the structural members can have any combination of inner or outer shapes. This combined disclosure would indicate to the skilled artisan that the contoured shape of the structural member can have a combination of polygonal shapes on the outer surface, thus providing support for a portion of the outer surface having a polygonal shape.

Despite such written support, Applicant has amended the claims as indicated above solely in an effort to expedite prosecution. Applicant considers that there is no difference in the scope between “a portion of an outer surface” having a polygonal shape and “an outer surface” having a polygonal shape.

Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Erwin et al.

The Office has repeated the rejection of claims 1-7, 9-14, and 30-34 under 35 U.S.C. § 102 (b) as being anticipated by Erwin et al. Applicant respectfully traverses this rejection.

Applicant respectfully disagrees with this rejection. The present independent claims recite that the structural member contains an outer surface with a polygonal surface and that a composite overwrap is located over the surface with this polygonal shape. The dependent claims contain the additional limitation that the composite overwrap reduces the secondary loading

condition. The Office, however, has not shown that Erwin et al. teach or suggest either of these limitations in the present claims.

The Office argues that such limitations are taught by Erwin et al. since that reference discloses additional wrappings to areas of high stress at 45 degrees in column 3, lines 26-38. From such arguments, it is apparent that the Office considers the plurality of layers of fiber material (designated as 34) to be a composite overwrap.

In the previous rejection, the Office argued that Erwin et al. disclose a tennis racket with a handle 12 that has a polygonal shape. *See Office Action of 9/23/03 at paragraph 13.* Assuming, *arguendo*, that this argument is true, the Office still has not substantiated that a composite overwrap is located over this polygonal surface of handle 12.

The Office also argues that the plurality of layers of fiber material (designated as 34) of Erwin et al. would constitute a composite overwrap. Once again, assuming this argument to be true merely for the sake of argument, it still does not show that Erwin et al. teach or suggest every limitation recited in the present claims. As noted above, the present claims recite that the composite overwrap is located over a surface with a polygonal shape. The plurality of layers of fiber material 34 of Erwin et al. are wrapped around casing 32 which, as shown in Figure 2, has a circular surface. But the Office has failed to argue—or even allege—that casing 32 has a polygonal outer surface. And it is unlikely that the Office can show that Erwin et al. would suggest a polygonal shape to the skilled artisan since all the Figures illustrate casing 32 as having a circular cross-section.

Nor has the Office shown that the layers 34 are wrapped circumferentially as recited by some of the present claims. The Office argues that that the helically wound layers 34 of Erwin et al. meet such a limitation. But a helical winding is simply not the same as a circumferential

winding. A simple comparison of Figure 2 of Erwin et al. and Figure 15 of the present application shows some—but not all—of the differences between such windings.

The Office argues that limitation that the composite overwrap reduces secondary loading is an intended use. Applicant disagrees since this language does not recite what the structural member is to be used for, but recites a physical property of the composite overwrap. In any event, the Office argues that such a limitation is inherent in the layers 34 of Erwin et al. since the layers 34 are wrapped on selected portions. If this inherent feature existed, why does Erwin disclose that the helical winding 34 “contributes to the torsional stiffness and resistance to splitting” yet fails to mention anything about reducing the secondary loading in column 3, lines 29-30.

Indeed, paragraph 36 of the present specification describes why the fibers of composite overwrap are oriented circumferentially.

To protect against such a problem [second loading], that area of the structural member 2 is “overwrapped” with a composite collar comprising of fibers which are oriented around the circumference of the structural member. This prevents the structural member from exploding, while not adding much weight. The overwrap is located over the entire joint area with some extension past the joint to help with stress concentrations.

It is unlikely that the layers 34 of Erwin et al. exhibit the same property since the winding is helical and the fibers of one layer are situated at right angles to the fibers of the adjacent layer. *See column 3, lines 28-29.*

Thus, the Office has not shown that Erwin et al. teach these limitations in the present claims. And the Office has not argued that such limitations would have been obvious in light of Erwin et al. Accordingly, the Office has not substantiated the Erwin et al. teach or suggest each and every limitation in the present claims and therefore this rejection should be withdrawn.

Rejection – 35 U.S.C. § 103 over Erwin et al. and Reid et al.

The Office has rejected claim 8 under 35 U.S.C. § 103 as being unpatentable over Erwin et al. in view of Reid et al. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member containing a composite overwrap on a portion of the polygonal outer surface of the structural member. The dependent claims contain the additional limitation that the composite overwrap reduces the secondary loading condition. As noted above, the Office has not substantiated that Erwin et al. teach a structural member with this recited limitation. Nor has the Office even argued that the skilled artisan would have considered such a limitation obvious in light of the disclosure of Erwin et al.

Neither has the Office substantiated that Reid et al. teach or suggest a structural member containing such a limitation. As noted previously, Reid et al. describe and illustrate a crash attenuation system for absorbing the energy from impact forces. *See Abstract and Figures*. The Office has not substantiated that Reid et al. teach the claimed structural member with this composite overwrap. Nor has the Office provided any reason to modify the teachings of Reid et al. to obtain a composite overwrap on a portion of a polygonal outer surface of the structural member. And since the Office has not shown that Reid et al. teach or suggest this claimed limitation, the Office cannot show that it would have been obvious to modify Erwin et al. to include such a limitation.

For the above reasons, the Office has not substantiated that the skilled artisan would have considered claim 8 obvious over the combined teachings of Erwin et al. and Reid et al. Accordingly, Applicant requests withdrawal of this rejection.

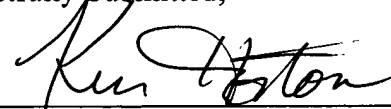
CONCLUSION

For the above reasons, Applicant respectfully requests the Office to withdraw the above grounds of rejection and allow the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 18-0013.

Respectfully Submitted,

By



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Date: November 24, 2004